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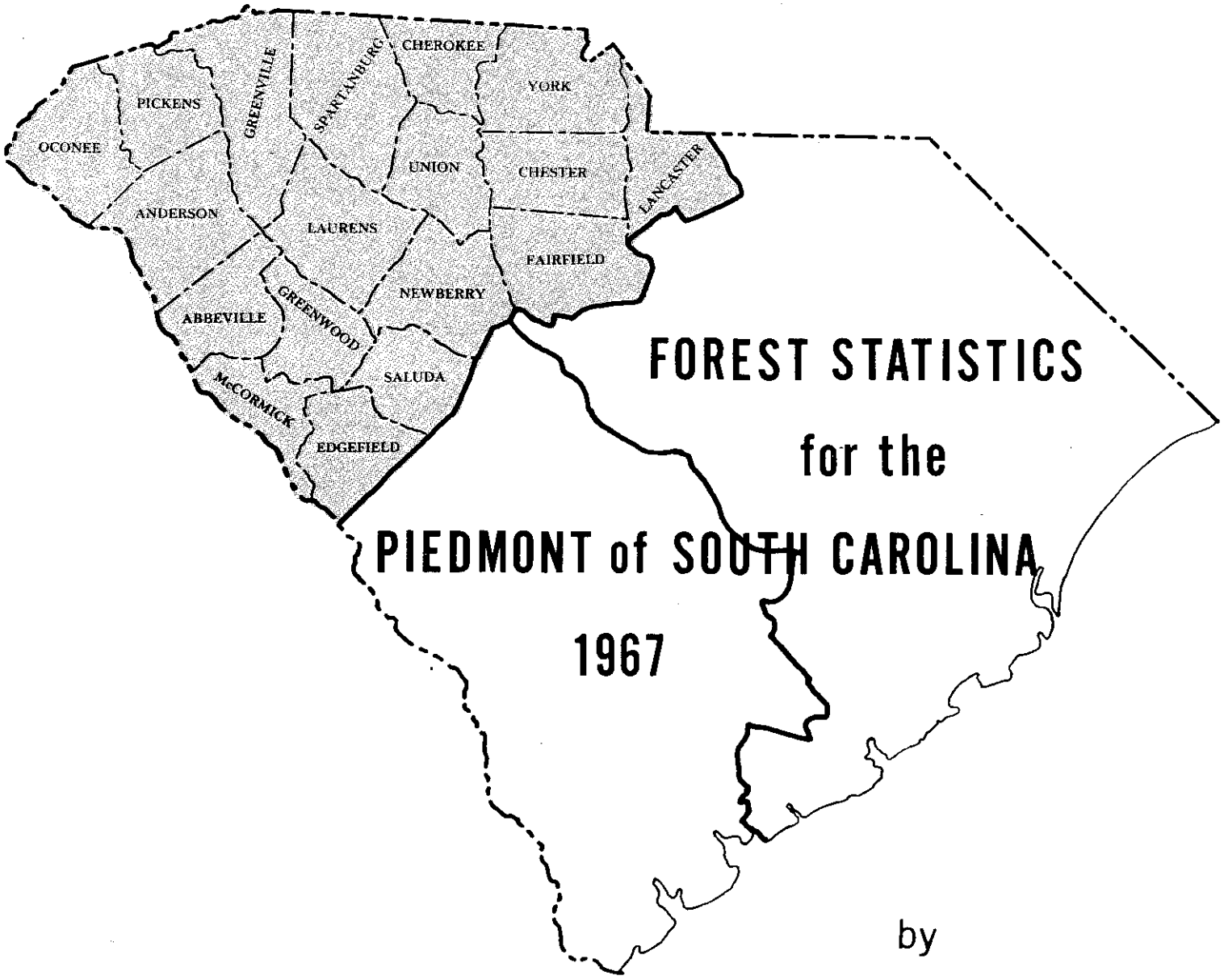

FOREST STATISTICS for the PIEDMONT of SOUTH CAROLINA 1967

by

WILLIAM H. B. HAINES

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
SOUTHEASTERN FOREST EXPERIMENT STATION
ASHEVILLE, NORTH CAROLINA

FOREWORD

This report highlights the principal findings of the fourth Forest Survey in the Piedmont of South Carolina, completed in February 1967. Findings of the three earlier surveys, completed in 1936, 1947, and 1958, provide the basis for measuring the changes that have occurred and the trends that have developed over the past 30 years.

Forest Survey, authorized by the McSweeney-McNary Forest Research Act of May 22, 1928, as amended, is a continuing nationwide undertaking by the regional experiment stations of the U. S. Forest Service. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Forest Survey is an activity of the Southeastern Forest Experiment Station, with headquarters at Asheville, North Carolina. The general objective is to inventory periodically forest lands, their extent, condition, and volume of timber, and to ascertain rates of forest growth and depletion. It is necessary to keep this basic information up to date to provide a sound basis for the formulation of forest policies and programs.

The 18-county area covered by this report is one of three Survey units in South Carolina. Comparable reports for the Northern Coastal Plain and Southern Coastal Plain will be issued as the Statewide survey progresses. When completed, this survey will provide updated statistics on the timber resource for all of South Carolina.

Joe P. McClure, Project Leader, organized and coordinated the various phases of the Piedmont Survey. Noel D. Cost was in charge of data collection. William H. B. Haines supervised the aerial photo preparation and interpretation and the data computations. Richard L. Welch was responsible for compiling timber removal and mortality information. Herbert A. Knight was in charge of analysis and reporting.

Office personnel assisting in this report were:

Gerald C. Craver
Bertie W. Greene
Cecil C. Hutchins, Jr.
Joanne Hutchison
Doniev W. Jackson
Ruth E. McIntyre
Agnes C. Nichols
Louise Shuford
Sammy S. Wenningham
Dorothy S. White
Camilla E. Young

The field party included:

John D. Nesbit, Field Supervisor
Thomas R. Bellamy, Field Assistant

Joe Max Blair
Robert A. Cathey
Edgar L. Davenport
Jeffrey E. Dukes
Leonard G. Edwards
Joseph D. Lloyd
Harold D. Matthews
David L. Pait
John F. Parlier
Douglas R. Phillips
Harry J. Van Loock III

Walton R. Smith

WALTON R. SMITH, Assistant Director
Division of Marketing, Utilization,
and Resources Research

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HIGHLIGHTS

Since 1958 in the South Carolina Piedmont--

--area of commercial forest has increased from 4.1 to almost 4.5 million acres. About 66 percent of the total land area is now in commercial forest. Especially noticeable is the reversion of over 400,000 acres of former agricultural lands to forest. However, over 135,000 acres of commercial forest were lost to other land uses during the remeasurement period. Almost half of this loss was to urban development and the construction of new reservoirs.

--area in pine and oak-pine cover types has increased by about one-fifth, from 63 to almost 72 percent of the commercial forest. In contrast, there was a 17-percent decline in the area in hardwood cover types. Pines are present or predominant on most of the reversions from idle farmland to forest. Loblolly pine, with 1.3 million acres, is the leading cover type.

--commercial forest land owned by farm operators has been reduced by half. This reduction has been brought about by a shift in ownership from farmers to business and professional people, wage earners, land-holding companies, and other miscellaneous private groups. Collectively, these miscellaneous private owners now own 2.3 million acres, or 52 percent of the commercial forest. Forest industry holdings are up by 145,000 acres. Area in public ownerships has increased slightly.

--sapling and seedling stands have increased by 580,000 acres, largely the result of natural reversion and planting. Acreage in poletimber stands has remained about the same, and sawtimber stands have declined by 230,000 acres. The area in nonstocked forest land is down from 112,900 to 21,700 acres.

--average stand density of all live trees 5.0 inches d.b.h. and larger expressed in basal area per acre has increased from 46 to 51 square feet. Softwoods comprise 52 percent of this basal area, the same proportion as in 1958. Today, only about one acre in five is fully stocked with growing-stock trees.

--volume of softwood growing stock, primarily pine, has increased almost 23 percent, with an even larger increase (29 percent) in volume of softwood sawtimber. This increase reverses the downward trend in softwood volume between 1936 and 1958. Loblolly and Virginia pines comprised most of the recent increase. In poletimber trees, the volume of shortleaf pine exceeds that of loblolly pine. However, total volume of shortleaf has declined, largely because of removals in the attempt to control littleleaf disease, to which the species is particularly subject.

--volume of hardwood has continued to increase, and at a faster rate than between the two previous surveys. Volume of hardwood growing stock is up 19 percent compared to an 11-percent increase between 1947 and 1958. Volume of hardwood sawtimber is up almost 17 percent compared to a 6-percent increase between 1947 and 1958. The red oaks as a group comprised most of the increase. However, white oak, yellow-poplar, and soft maple have also made substantial gains.

In 1966--

--net growth of growing stock exceeded removals by an estimated 68.3 million cubic feet, or 46 percent. Slightly over half of this growth over removal was softwood. By ownership, 45 percent of the excess growth was in the miscellaneous private class, 31 percent on public holdings, and the remaining 24 percent on farmer and forest industry holdings.

--net growth of sawtimber exceeded removals by an estimated 157.3 million board feet, or 37 percent. Two-thirds of this growth over removal was softwood. By ownership, 47 percent of the excess growth was on public holdings, 29 percent on miscellaneous private lands, and the remaining 24 percent on farmer and forest industry holdings.

--mortality of growing stock was estimated to total 16.2 million cubic feet. Almost 63 percent of this total was softwood. Littleleaf disease was the leading identifiable cause of death. For both softwood and hardwood, suppression and climatic factors were also significant causes of death.

HOW THE FOREST SURVEY IS MADE

The method of survey is essentially a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented to permit adding any combination of counties together until the total is large enough to meet the desired degree of reliability. The basic steps of the survey procedure were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 38,236 sample points systematically spaced on the latest aerial photographs available.

2. The initial estimates of area by land-use class were either verified or adjusted on the basis of a ground check at 1,582 of these sample points.

3. Estimates of timber volume and forest classifications were based on measurements recorded at 1,064 of the ground check locations which fell within commercial forest land. A 10-point cluster of plots systematically spaced on an acre were measured at each of these sample locations using a basal area factor of 37.5 square feet per acre. Trees less than 5.0 inches d.b.h. were tallied on fixed-radius plots around the point centers.

4. Equations prepared from detailed measurements collected on the trees tallied at one out of every 20 sample locations were used to compute the volumes of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on standing trees required to construct the volume equations. The same 5-percent subsample of plots used for the tree-volume study also served as a quality control of field measurements. Felled trees were measured at active cutting operations to provide utilization factors for product and species groups and to supplement the standing tree-volume study.

5. Permanent sample plots established in 1957 were reconstructed where possible, and their remeasurement provided the primary estimates of growth, removal, and mortality.

6. Ownership information was collected from local contacts, correspondence, and public records. In those counties where the sample missed a particular ownership class, temporary sample plots were added and measured to describe the forest conditions within the ownership class.

7. All field data were sent to Asheville for editing and were punched in cards and stored on magnetic tape for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates a sampling error of ±0.9 percent for the estimate of total commercial forest area, and 2.7 percent for both total cubic volume and growth. As these totals are broken down by county, forest type, species, tree diameter, and other subdivisions, the sampling error increases. The order of this increase is suggested in the following tabulation which shows the sampling error to which the estimates are liable, in terms of one standard error.

Forest area	Sampling error[1]	Cubic volume	Sampling error[1]	Net cu.-ft. growth	Sampling error[1]
Thousand acres	Percent	Million cu. ft.	Percent	Million cu. ft.	Percent
4,453.9	0.9				
3,607.7	1.0				
901.9	2.0	3,628.0	2.7	216.5	2.7
400.9	3.0	2,938.7	3.0	175.4	3.0
225.5	4.0	1,653.0	4.0	98.6	4.0
144.3	5.0	1,057.9	5.0	63.1	5.0
36.1	10.0	264.5	10.0	15.8	10.0
16.0	15.0	117.5	15.0	7.0	15.0
9.0	20.0	66.1	20.0	3.9	20.0
5.8	25.0	42.3	25.0	2.5	25.0

1/ By random-sampling formula.

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled $50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least $250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

White pine-hemlock.--Forests in which eastern white pine or hemlock, singly or in combination, comprises a plurality of the stocking. (Common associates include birch and maple.)

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mts.), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past two years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.

Bureau of the Census.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Forest Survey.--The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet, and minimum size of lakes, etc., is 1 acre.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume of a specified size class for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where use for timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly-owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log now or prospectively and/or do not meet Regional specifications for freedom from defect primarily because of rot.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log now or prospectively and/or do not meet Regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Regional standards.

Saplings.--Live trees 1.0 inch to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods), or other combinations of size and defect specified by Regional standards.

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log and meeting Regional specifications for freedom from defect. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive according to Regional standards.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mt., sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and/or seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area and/or the number of trees in a stand and spacing in the stand, compared to a minimum standard of 75 square feet of basal area per acre to fully utilize the growth potential of the land.

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the bole of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the central stem breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

Water.

Bureau of the Census.--Streams, sloughs, estuaries, and canals more than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds more than 40 acres in area.

Forest Survey.--The same as Census except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Conversion factors:

Cubic feet of wood per average cord (excluding bark)

D.b.h. class	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
6	60.5	60.9	67.9	59.4	59.5
8	68.2	68.0	75.9	68.3	68.1
10	73.0	72.9	80.5	73.1	73.1
12	76.5	76.4	84.9	76.2	76.3
14	78.8	79.3	88.2	78.3	78.3
16	80.4	81.4	89.4	79.7	79.7
18	81.6	83.1	92.4	80.7	80.7
20	82.5	84.7	93.2	81.4	81.5
22	83.8	86.7	95.6	82.5	82.4
24+	84.2	90.6	98.2	83.8	83.9
Average	73.1	72.3	78.5	73.9	73.6

COUNTY TABLES

The county tables are intended for use in compiling forest resource estimates for groups of counties. Because the sampling procedure used by the Forest Survey in the ~~South Carolina Piedmon~~t was intended primarily to furnish inventory data for the Unit as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the tabulation on page 4.

Table 1.--Area, by land class and county, 1967

County	All land[1]	Forest land				Nonforest land[2]
		Total	Commercial forest	Unproductive forest	Productive reserved	
	Thousand acres					
Abbeville	324.5	212.5	212.5	--	--	112.0
Anderson	481.1	207.6	207.6	--	--	273.5
Cherokee	252.2	134.7	133.7	--	1.0	117.5
Chester	374.4	271.2	271.1	--	0.1	103.2
Edgefield	307.8	230.2	230.0	--	0.2	77.6
Fairfield	447.4	386.3	386.3	--	--	61.1
Greenville	504.9	280.6	257.8	--	22.8	224.3
Greenwood	286.1	212.9	212.5	--	0.4	73.2
Lancaster	322.6	231.5	231.4	--	0.1	91.1
Laurens	448.6	290.1	290.1	--	--	158.5
McCormick	232.9	213.5	212.8	--	0.7	19.4
Newberry	407.0	320.3	320.0	--	0.3	86.7
Oconee	422.1	336.0	329.0	--	7.0	86.1
Pickens	320.6	226.8	223.5	--	3.3	93.8
Saluda	282.9	166.3	166.3	--	--	116.6
Spartanburg	531.2	263.8	261.4	--	2.4	267.4
Union	329.6	251.8	251.7	--	0.1	77.8
York	438.4	264.1	256.2	--	7.9	174.3
Total	6,714.3	4,500.2	4,453.9	--	46.3	2,214.1

1/ From U. S. Bureau of the Census, Land and Water Area of the United States, 1960.

2/ Includes 66,200 acres of water according to Survey standards of area classification but defined by Bureau of the Census as land.

Table 2.--Area of commercial forest land, by ownership class and county, 1967

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry 1/	Farmer	Miscellaneous private	
								Corporate	Individual
	Thousand acres								
Abbeville	212.5	20.8	0.8	--	0.3	48.7	14.2	14.2	113.5
Anderson	207.6	--	7.0	5.2	0.1	8.0	58.2	25.0	104.1
Cherokee	133.7	--	--	--	0.4	12.1	42.8	--	78.4
Chester	271.1	11.6	--	0.3	0.5	51.5	134.1	16.2	56.9
Edgefield	230.0	27.7	--	--	0.2	42.1	34.6	--	125.4
Fairfield	386.3	12.1	--	--	0.1	76.2	97.7	4.9	195.3
Greenville	257.8	--	--	0.9	1.8	6.8	53.8	12.4	182.1
Greenwood	212.5	10.1	--	0.6	2.6	24.5	23.0	23.0	128.7
Lancaster	231.4	--	--	0.3	0.1	24.0	86.3	12.9	107.8
Laurens	290.1	20.0	--	1.1	1.0	53.9	72.7	--	141.4
McCormick	212.8	45.8	26.4	1.1	0.6	38.7	13.8	--	86.4
Newberry	320.0	53.8	--	--	1.0	32.5	105.8	--	126.9
Oconee	329.0	65.7	5.4	7.3	2.1	0.9	91.7	50.4	105.5
Pickens	223.5	--	0.8	8.8	0.2	1.6	40.8	44.9	126.4
Saluda	166.3	4.1	--	--	0.2	25.4	62.4	--	74.2
Spartanburg	261.4	--	--	4.5	2.2	17.5	74.9	8.3	154.0
Union	251.7	56.4	--	--	0.1	39.7	85.3	--	70.2
York	256.2	--	--	--	0.5	16.7	91.2	13.1	134.7
Total	4,453.9	328.1	40.4	30.1	14.0	520.8	1,183.3	225.3	2,111.9

1/ Not including 4,300 acres of farmer and miscellaneous private lands leased to forest industry.

Table 3.--Area of commercial forest land, by forest-type group and county, 1967

County	All type groups	Forest-type groups						
		White pine-hemlock	Longleaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
	Thousand acres							
Abbeville	212.5	--	--	119.3	34.7	58.5	--	--
Anderson	207.6	--	--	89.5	37.4	68.2	--	12.5
Cherokee	133.7	--	--	61.1	32.1	40.5	--	--
Chester	271.1	--	--	159.6	57.2	47.9	--	6.4
Edgefield	230.0	--	--	142.7	58.3	26.3	--	2.7
Fairfield	386.3	--	--	288.7	46.8	41.0	--	9.8
Greenville	257.8	--	--	63.0	41.4	149.2	--	4.2
Greenwood	212.5	--	--	120.9	36.8	54.8	--	--
Lancaster	231.4	--	--	130.8	41.3	50.7	--	8.6
Laurens	290.1	--	--	151.3	40.3	86.4	--	12.1
McCormick	212.8	--	--	142.8	45.2	13.7	--	11.1
Newberry	320.0	--	--	231.2	55.7	18.5	--	14.6
Oconee	329.0	4.6	--	120.8	69.3	125.1	--	9.2
Pickens	223.5	4.1	--	62.4	48.9	104.0	--	4.1
Saluda	166.3	--	--	117.0	16.7	32.6	--	--
Spartanburg	261.4	--	--	145.9	33.3	82.2	--	--
Union	251.7	--	--	122.5	40.3	75.1	--	13.8
York	256.2	--	--	115.9	57.9	78.1	--	4.3
Total	4,453.9	8.7	--	2,385.4	793.6	1,152.8	--	113.4

Table 4.--Area of commercial forest land, by stand-size class and county, 1967

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling and seedling	
		Thousand acres			
Abbeville	212.5	44.2	70.4	97.9	--
Anderson	207.6	42.1	111.1	50.3	4.1
Cherokee	133.7	18.7	68.1	46.9	--
Chester	271.1	40.1	107.4	123.6	--
Edgefield	230.0	125.1	65.4	35.2	4.3
Fairfield	386.3	86.5	118.9	180.9	--
Greenville	257.8	84.6	106.6	66.6	--
Greenwood	212.5	110.4	54.1	48.0	--
Lancaster	231.4	37.8	80.3	113.3	--
Laurens	290.1	75.2	95.5	119.4	--
McCormick	212.8	86.2	76.5	50.1	--
Newberry	320.0	163.9	56.5	99.6	--
Oconee	329.0	109.8	136.0	83.2	--
Pickens	223.5	79.1	94.0	46.3	4.1
Saluda	166.3	56.1	79.0	31.2	--
Spartanburg	261.4	33.6	133.2	90.4	4.2
Union	251.7	69.3	120.8	56.6	5.0
York	256.2	27.5	88.1	140.6	--
Total	4,453.9	1,290.2	1,661.9	1,480.1	21.7

Table 5.--Area of commercial forest land, by site class and county, 1967

County	All classes	Site class				
		1	2	3	4	5
	Thousand acres					
Abbeville	212.5	--	--	22.1	133.1	57.3
Anderson	207.6	--	8.3	8.3	164.8	26.2
Cherokee	133.7	--	--	10.7	66.0	57.0
Chester	271.1	--	--	23.4	202.5	45.2
Edgefield	230.0	--	--	27.8	168.7	33.5
Fairfield	386.3	--	--	21.5	272.4	92.4
Greenville	257.8	--	16.5	54.4	144.6	42.3
Greenwood	212.5	--	--	32.2	146.6	33.7
Lancaster	231.4	--	--	25.0	142.9	63.5
Laurens	290.1	--	6.7	28.5	210.9	44.0
McCormick	212.8	--	3.5	12.8	166.5	30.0
Newberry	320.0	--	14.7	41.3	234.7	29.3
Oconee	329.0	4.6	4.6	52.1	187.1	80.6
Pickens	223.5	8.1	4.1	15.3	143.0	53.0
Saluda	166.3	--	--	9.8	136.8	19.7
Spartanburg	261.4	--	4.1	37.5	163.2	56.6
Union	251.7	--	--	52.1	163.1	36.5
York	256.2	--	--	14.5	187.0	54.7
Total	4,453.9	12.7	62.5	489.3	3,033.9	855.5

Table 6.--Area of commercial forest land, by stocking classes of growing-stock trees, by county, 1967

County	All classes	Stocking percentage[1/]				
		Over 130	100-130	60-99	16.7-59	Less than 16.7
	Thousand acres					
Abbeville	212.5	--	26.8	122.7	63.0	--
Anderson	207.6	--	28.4	124.6	50.5	4.1
Cherokee	133.7	--	7.1	90.0	36.6	--
Chester	271.1	3.6	31.1	191.7	44.7	--
Edgefield	230.0	4.3	55.3	116.6	49.5	4.3
Fairfield	386.3	4.9	98.6	241.1	41.7	--
Greenville	257.8	--	42.3	150.2	65.3	--
Greenwood	212.5	4.6	40.8	136.2	30.9	--
Lancaster	231.4	4.3	35.4	146.2	45.5	--
Laurens	290.1	--	48.4	159.8	81.9	--
McCormick	212.8	10.6	59.9	108.3	34.0	--
Newberry	320.0	10.6	67.7	163.7	78.0	--
Oconee	329.0	--	21.5	184.6	122.9	--
Pickens	223.5	--	5.0	147.3	67.1	4.1
Saluda	166.3	3.9	55.5	78.0	28.9	--
Spartanburg	261.4	8.3	57.7	124.0	67.2	4.2
Union	251.7	3.8	46.8	152.7	43.4	5.0
York	256.2	4.3	43.5	154.9	53.5	--
Total	4,453.9	63.2	771.8	2,592.6	1,004.6	21.7

1/ Stocking percentage is based on a standard of 75 square feet per acre.

Table 7.--Volume of sawtimber and growing stock on commercial forest land, by species group and county, 1967

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					Million cubic feet[1/]				
Abbeville	334.3	186.5	0.9	100.3	46.6	152.6	73.6	1.9	41.4	35.7
Anderson	281.4	113.8	3.7	76.4	87.5	152.2	60.9	2.2	31.2	57.9
Cherokee	162.2	63.4	1.0	34.2	63.6	88.7	37.7	0.5	13.8	36.7
Chester	325.5	118.7	7.8	75.8	123.2	155.0	62.8	7.0	34.4	50.8
Edgefield	795.4	655.2	1.4	86.5	52.3	253.2	194.4	1.0	34.2	23.6
Fairfield	593.8	448.9	5.8	79.8	59.3	244.3	174.1	3.5	33.6	33.1
Greenville	520.0	119.1	2.2	114.8	283.9	230.0	58.3	0.5	54.3	116.9
Greenwood	688.5	495.6	1.3	98.2	93.4	238.7	156.0	2.1	37.2	43.4
Lancaster	261.4	148.4	1.7	41.8	69.5	134.0	67.2	2.4	22.4	42.0
Laurens	462.6	229.7	6.2	118.0	108.7	204.2	89.2	4.2	55.3	55.5
McCormick	711.6	519.0	1.7	109.3	81.6	243.1	162.7	1.8	40.2	38.4
Newberry	961.0	789.6	4.2	98.0	69.2	322.0	242.3	3.8	41.8	34.1
Oconee	639.1	278.3	60.2	51.3	249.3	270.8	109.6	15.7	28.4	117.1
Pickens	540.3	200.1	14.2	85.3	240.7	230.1	75.8	5.7	35.0	113.6
Saluda	439.4	327.2	--	27.5	84.7	177.3	121.9	--	17.5	37.9
Spartanburg	271.0	148.5	0.7	53.9	67.9	158.3	86.6	0.6	24.1	47.0
Union	626.4	300.3	3.6	172.1	150.4	235.1	111.3	2.7	57.4	63.7
York	267.0	60.3	1.4	132.6	72.7	138.4	42.7	2.8	48.0	44.9
Total	8,880.9	5,202.6	118.0	1,555.8	2,004.5	3,628.0	1,927.1	58.4	650.2	992.3

1/ Factors for converting to cords are shown on page 11.

Table 8.--Net annual growth of sawtimber and growing stock on commercial forest land, by species group and county, 1966

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					Million cubic feet				
Abbeville	22.9	15.2	--	3.9	3.8	8.4	4.9	0.1	1.7	1.7
Anderson	22.9	11.1	0.1	4.3	7.4	8.9	4.0	0.1	1.2	3.6
Cherokee	13.8	7.5	--	1.1	5.2	6.6	3.2	--	1.4	2.0
Chester	17.0	7.8	0.3	4.4	4.5	9.0	4.9	0.3	1.8	2.0
Edgefield	49.3	44.3	--	3.3	1.7	14.9	12.7	--	1.3	0.9
Fairfield	48.5	37.6	0.3	5.7	4.9	18.2	14.9	0.2	1.4	1.7
Greenville	21.2	7.8	0.1	4.2	9.1	12.2	4.8	--	3.1	4.3
Greenwood	38.6	30.9	0.1	3.7	3.9	14.1	10.1	0.1	1.4	2.5
Lancaster	15.7	10.5	0.1	1.5	3.6	10.4	6.1	0.8	1.5	2.0
Laurens	33.5	21.2	0.1	6.4	5.8	11.3	6.3	0.1	2.4	2.5
McCormick	45.5	37.5	--	4.5	3.5	14.1	10.2	0.6	1.8	1.5
Newberry	73.3	66.9	0.2	3.6	2.6	18.3	14.5	0.8	1.5	1.5
Oconee	37.2	18.0	2.6	4.4	12.2	14.5	6.7	0.9	1.4	5.5
Pickens	35.6	14.1	1.0	9.1	11.4	11.4	4.7	0.4	1.7	4.6
Saluda	34.0	27.9	--	1.9	4.2	12.2	9.6	--	0.8	1.8
Spartanburg	21.9	12.9	--	2.5	6.5	11.3	7.5	--	1.2	2.6
Union	34.1	20.0	0.2	6.8	7.1	11.7	6.8	0.1	2.1	2.7
York	14.0	3.3	--	5.6	5.1	9.0	4.6	0.1	1.9	2.4
Total	579.0	394.5	5.1	76.9	102.5	216.5	136.5	4.6	29.6	45.8

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land, by species group and county, 1966

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					Million cubic feet				
Abbeville	29.4	22.3	--	6.0	1.1	9.8	7.2	0.1	1.9	0.6
Anderson	19.0	12.1	--	4.0	2.9	6.0	3.5	--	1.5	1.0
Cherokee	12.6	7.4	--	2.6	2.6	4.5	2.9	--	0.9	0.7
Chester	17.2	8.6	0.6	3.7	4.3	8.4	4.4	0.5	1.8	1.7
Edgefield	17.1	12.1	--	4.5	0.5	7.5	5.7	--	1.5	0.3
Fairfield	34.8	30.4	--	3.0	1.4	13.4	11.0	0.2	1.4	0.8
Greenville	19.5	8.2	--	4.4	6.9	5.9	2.6	--	1.4	1.9
Greenwood	40.7	31.8	--	7.5	1.4	10.9	8.5	--	1.9	0.5
Lancaster	17.0	14.7	--	0.3	2.0	6.1	5.3	--	0.2	0.6
Laurens	32.4	22.6	0.3	7.5	2.0	10.1	7.3	0.1	2.1	0.6
McCormick	9.0	7.8	--	--	1.2	4.4	3.9	--	0.2	0.3
Newberry	41.5	36.6	0.5	1.9	2.5	14.7	12.6	0.3	0.7	1.1
Oconee	39.8	14.8	13.0	0.4	11.6	12.5	5.5	2.6	0.1	4.3
Pickens	15.4	2.8	2.9	1.5	8.2	6.5	2.2	0.6	1.0	2.7
Saluda	21.5	12.9	0.3	5.0	3.3	6.9	4.1	0.3	1.5	1.0
Spartanburg	18.4	13.3	--	4.0	1.1	6.0	4.5	--	1.1	0.4
Union	20.7	8.5	--	9.5	2.7	6.8	3.5	--	2.5	0.8
York	15.7	9.2	0.9	1.8	3.8	7.8	5.7	0.4	0.7	1.0
Total	421.7	276.1	18.5	67.6	59.5	148.2	100.4	5.1	22.4	20.3

Table 10.--Area of commercial forest land, by forest type and ownership class, 1967

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Farmer	Misc. private
	Thousand acres					
Softwood types:						
White pine-hemlock	8.7	--	--	--	8.7	--
Longleaf pine	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--
Loblolly pine	1,319.4	139.8	37.5	235.7	272.4	634.0
Shortleaf pine	821.8	78.8	14.4	101.6	208.3	418.7
Virginia pine	162.6	4.7	6.2	--	41.9	109.8
Redcedar	77.0	--	1.2	9.0	35.4	31.4
Pond pine	--	--	--	--	--	--
Pitch pine	4.6	--	--	--	--	4.6
Total	2,394.1	223.3	59.3	346.3	566.7	1,198.5
Hardwood types:						
Oak-pine	793.6	55.8	4.3	71.3	241.1	421.1
Oak-hickory	1,143.9	32.0	20.9	95.7	323.1	672.2
Southern scrub oak	8.9	--	--	--	8.9	--
Oak-gum-cypress	--	--	--	--	--	--
Elm-ash-cottonwood	113.4	17.0	--	7.5	43.5	45.4
Total	2,059.8	104.8	25.2	174.5	616.6	1,138.7
All types	4,453.9	328.1	84.5	520.8	1,183.3	2,337.2

Table 11.--Area of commercial forest land, by ownership and stocking classes of growing-stock trees, 1967

Ownership classes	All classes	Stocking percentage[1/]				
		Over 130	100-130	60-99	16.7-59	Less than 16.7
	Thousand acres					
National Forest	328.1	11.4	103.7	154.3	58.7	--
Other public	84.5	2.9	20.0	45.4	16.2	--
Forest industry	520.8	3.6	124.0	311.7	81.5	--
Farmer	1,183.3	8.5	146.2	708.5	310.8	9.3
Misc. private	2,337.2	36.8	377.9	1,372.7	537.4	12.4
All ownerships	4,453.9	63.2	771.8	2,592.6	1,004.6	21.7

1/ Stocking percentage is based on a standard of 75 square feet per acre.

Table 12.--Volume of timber on commercial forest land, by class and species group, 1967

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million cubic feet				
Sawtimber trees:					
Saw-log portion	2,079.1	1,136.1	27.8	380.5	534.7
Upper-stem portion	248.2	128.6	3.8	45.6	70.2
Total	2,327.3	1,264.7	31.6	426.1	604.9
Poletimber trees	1,300.7	662.4	26.8	224.1	387.4
All growing-stock trees	3,628.0	1,927.1	58.4	650.2	992.3
Rough trees:					
Sawtimber-size trees	198.6	23.5	2.1	63.0	110.0
Poletimber-size trees	322.4	46.0	7.7	109.7	159.0
Total	521.0	69.5	9.8	172.7	269.0
Rotten trees:					
Sawtimber-size trees	55.8	0.6	0.9	20.1	34.2
Poletimber-size trees	12.7	0.3	--	5.8	6.6
Total	68.5	0.9	0.9	25.9	40.8
Salvable dead trees:					
Sawtimber-size trees	5.2	2.8	2.4	--	--
Poletimber-size trees	4.6	3.6	--	1.0	--
Total	9.8	6.4	2.4	1.0	--
Total, all timber	4,227.3	2,003.9	71.5	849.8	1,302.1

Table 13.--Number of growing-stock trees on commercial forest land, by species and diameter class, 1967

Species	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
	Thousand trees										
Softwood:											
Longleaf pine	579	151	164	154	43	54	11	--	--	--	2
Shortleaf pine	128,007	68,868	35,040	14,397	6,257	2,346	677	289	101	32	--
Loblolly pine	149,847	71,592	34,304	21,204	11,429	6,367	2,894	1,145	535	372	5
Virginia pine	21,213	11,209	5,570	2,810	1,100	396	72	27	17	12	--
Pitch pine	914	350	343	92	89	15	25	--	--	--	--
Table-Mt. pine	102	--	41	--	19	--	25	10	7	--	--
Eastern white pine	1,213	466	308	39	252	44	14	28	9	49	4
Eastern hemlock	358	205	84	--	43	--	--	20	--	6	--
Other eastern softwoods	9,812	6,633	2,119	744	230	74	12	--	--	--	--
Total softwoods	312,045	159,474	77,973	39,440	19,462	9,296	3,730	1,519	669	471	11
Hardwood:											
Select white oaks[1]	25,787	11,693	6,558	3,258	1,911	1,197	518	336	131	167	18
Select red oaks[2]	5,463	1,548	1,595	958	591	367	145	107	87	64	1
Other white oaks	10,307	4,242	2,138	1,806	888	611	359	128	66	69	--
Other red oaks	38,042	14,641	10,811	5,954	3,017	1,703	1,034	469	221	163	29
Hickory	12,889	5,716	3,280	1,486	1,104	577	293	235	120	73	5
Hard maple	292	77	41	103	41	13	--	10	7	--	--
Soft maple	5,577	2,573	1,276	709	502	172	132	113	32	56	12
Beech	896	157	335	123	26	61	23	89	27	52	3
Sweetgum	34,444	18,666	7,382	3,403	2,264	1,194	819	409	160	144	3
Tupelo and blackgum	2,438	822	836	322	202	85	93	45	15	18	--
Ash	4,825	2,094	1,431	385	457	169	183	55	30	21	--
Cottonwood	359	93	44	30	19	15	58	20	22	34	24
Basswood	40	--	--	26	--	--	14	--	--	--	--
Yellow-poplar	13,127	4,331	2,936	1,796	1,581	1,205	564	394	189	118	13
Black walnut	160	60	--	48	--	32	--	--	14	6	--
Black cherry	195	113	82	--	--	--	--	--	--	--	--
Elm	6,354	2,625	2,120	847	416	216	42	64	15	9	--
Sycamore	1,175	138	204	281	199	105	87	71	37	44	9
Birch (except yellow)	3,062	1,147	1,018	257	306	143	33	72	42	44	--
Other eastern hardwoods	2,662	1,345	557	318	233	68	81	37	23	--	--
Total hardwoods	168,094	72,081	42,644	22,110	13,757	7,933	4,478	2,654	1,238	1,082	117
All species	480,139	231,555	120,617	61,550	33,219	17,229	8,208	4,173	1,907	1,553	128

1/ Includes white, swamp white, and swamp chestnut oaks.
2/ Includes cherrybark, northern red, and Shumard oaks.

Table 14.--Volume of all live trees on commercial forest land, by species and diameter class, 1967

Species	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
	Million cubic feet										
Softwood:											
Longleaf pine	6.2	0.4	0.7	1.3	0.8	1.7	0.5	--	--	0.3	0.5
Shortleaf pine	700.7	140.5	186.7	148.2	111.5	63.7	27.0	14.7	5.7	2.7	--
Loblolly pine	1,141.1	129.0	182.3	222.7	195.1	166.2	110.8	58.6	36.6	38.5	1.3
Virginia pine	141.5	29.9	36.6	36.6	22.0	10.6	2.7	1.0	1.0	1.1	--
Pitch pine	5.6	0.7	1.6	0.8	1.3	0.5	0.7	--	--	--	--
Table-Mountain pine	2.4	--	0.3	--	0.4	--	0.9	0.4	0.4	--	--
Eastern white pine	18.5	1.0	1.8	0.4	4.7	1.3	0.4	1.5	1.0	5.7	0.7
Eastern hemlock	3.6	0.5	0.4	--	1.1	--	--	0.9	--	0.7	--
Other eastern softwoods	47.0	17.0	13.8	8.1	4.8	2.1	0.3	0.4	--	0.5	--
Total softwoods	2,066.6	319.0	424.2	418.1	341.7	246.1	143.3	77.5	44.7	49.5	2.5
Hardwood:											
Select white oaks[1/]	285.6	30.9	40.5	42.4	44.0	39.8	24.5	19.6	11.7	22.5	9.7
Select red oaks[2/]	74.2	4.6	10.2	11.4	11.3	11.6	5.2	5.7	5.7	7.1	1.4
Other white oaks	134.2	13.2	16.2	23.5	20.4	19.4	15.3	7.4	6.2	8.8	3.8
Other red oaks	438.1	42.4	69.8	77.0	65.8	57.5	45.0	28.7	17.4	23.8	10.7
Hickory	149.2	14.7	20.5	20.0	24.3	20.8	13.9	13.9	9.2	10.4	1.5
Hard maple	7.1	1.2	0.7	1.7	0.8	0.9	0.3	0.6	0.9	--	--
Soft maple	106.4	15.1	17.9	15.5	16.7	10.4	6.3	10.4	3.5	8.3	2.3
Beech	31.3	0.8	2.3	3.3	1.9	1.7	1.2	6.5	2.2	9.7	1.7
Sweetgum	327.9	43.9	49.6	48.2	54.8	39.1	38.7	22.4	12.7	16.2	2.3
Tupelo and blackgum	39.4	4.8	7.5	6.6	7.4	3.1	4.5	2.8	0.8	1.9	--
Ash	73.3	10.6	14.9	9.6	14.8	5.6	8.7	3.7	2.5	2.9	--
Cottonwood	22.2	0.2	0.2	0.3	0.3	0.4	3.4	1.4	1.9	5.9	8.2
Basswood	1.2	0.2	--	0.4	--	--	0.6	--	--	--	--
Yellow-poplar	206.2	11.3	21.0	23.8	32.9	35.9	25.6	22.7	14.1	14.2	4.7
Black walnut	3.6	0.3	0.2	0.5	0.2	0.7	--	--	1.2	0.5	--
Black cherry	10.1	4.1	2.8	2.1	0.8	0.3	--	--	--	--	--
Elm	69.3	9.8	15.9	14.5	9.6	7.8	3.0	4.1	2.8	1.8	--
Sycamore	33.7	1.1	2.3	4.1	4.4	4.3	4.4	3.7	2.5	4.7	2.2
Birch (except yellow)	45.1	4.1	9.5	5.1	6.7	6.1	1.4	4.3	3.1	4.8	--
Other eastern hardwoods	92.8	30.3	21.1	15.9	6.6	6.9	4.5	4.2	1.7	0.7	0.9
Total hardwoods	2,150.9	243.6	323.1	325.9	323.7	272.3	206.5	162.1	100.1	144.2	49.4
All species	4,217.5	562.6	747.3	744.0	665.4	518.4	349.8	239.6	144.8	193.7	51.9

1/ Includes white, swamp white, and swamp chestnut oaks.
2/ Includes cherrybark, northern red, and Shumard oaks.

Table 15.--Volume of growing stock on commercial forest land, by species and diameter class, 1967

Species	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
	Million cubic feet										
Softwood:											
Longleaf pine	5.9	0.4	0.7	1.3	0.8	1.7	0.5	--	--	--	0.5
Shortleaf pine	675.1	132.1	177.2	143.4	109.4	63.3	26.6	14.7	5.7	2.7	--
Loblolly pine	1,110.9	118.8	172.8	214.8	193.2	166.1	110.6	58.6	36.2	38.5	1.3
Virginia pine	127.3	25.0	32.9	33.0	20.4	10.2	2.7	1.0	1.0	1.1	--
Pitch pine	5.5	0.6	1.6	0.8	1.3	0.5	0.7	--	--	--	--
Table-Mountain pine	2.4	--	0.3	--	0.4	--	0.8	0.4	0.5	--	--
Eastern white pine	18.1	0.9	1.8	0.4	4.7	1.3	0.5	1.5	0.6	5.7	0.7
Eastern hemlock	3.4	0.3	0.4	--	1.1	--	--	0.9	--	0.7	--
Other eastern softwoods	36.9	12.8	10.6	7.2	4.1	1.9	0.3	--	--	--	--
Total softwoods	1,985.5	290.9	398.3	400.9	335.4	245.0	142.7	77.1	44.0	48.7	2.5
Hardwood:											
Select white oaks[1/]	244.4	24.2	36.9	36.3	39.5	36.3	22.6	18.5	9.0	16.6	4.5
Select red oaks[2/]	67.1	3.7	8.9	10.4	10.4	10.1	5.2	5.6	5.7	6.5	0.6
Other white oaks	93.5	8.3	10.6	17.5	14.5	14.9	12.5	5.9	3.3	6.0	--
Other red oaks	352.2	30.2	56.9	61.4	53.9	45.8	40.3	25.1	15.1	16.4	7.1
Hickory	123.6	11.2	15.7	15.9	20.5	17.2	12.2	12.4	8.8	8.2	1.5
Hard maple	3.2	0.2	0.2	0.8	0.6	0.5	--	0.3	0.6	--	--
Soft maple	57.5	5.3	7.2	8.3	9.4	5.7	5.0	6.5	2.1	5.7	2.3
Beech	20.5	0.4	1.7	1.5	0.4	1.7	0.9	5.3	1.8	6.0	0.8
Sweetgum	264.2	32.1	37.5	35.9	42.2	35.0	33.6	21.1	11.3	15.0	0.5
Tupelo and blackgum	23.2	1.3	3.9	4.0	3.7	2.5	3.4	2.0	0.8	1.6	--
Ash	46.0	4.3	8.7	4.9	9.4	4.9	7.0	2.8	2.0	2.0	--
Cottonwood	21.1	0.2	0.2	0.3	0.3	0.4	3.4	1.4	1.9	4.8	8.2
Basswood	0.8	--	--	0.2	--	--	0.6	--	--	--	--
Yellow-poplar	192.1	10.3	18.4	21.2	30.8	35.6	24.1	22.7	13.4	12.4	3.2
Black walnut	2.9	0.2	--	0.5	--	0.7	--	--	1.2	0.3	--
Black cherry	0.6	0.1	0.5	--	--	--	--	--	--	--	--
Elm	48.4	5.3	12.3	9.5	7.4	6.3	2.0	3.5	1.1	1.0	--
Sycamore	27.1	0.4	1.3	3.4	3.4	3.1	3.4	3.7	2.5	4.3	1.6
Birch (except yellow)	32.2	2.5	6.3	2.4	5.4	3.8	1.2	3.8	2.3	4.5	--
Other eastern hardwoods	21.9	3.1	2.7	3.9	3.8	2.1	3.0	1.9	1.4	--	--
Total hardwoods	1,642.5	143.3	229.9	238.3	255.6	226.6	180.4	142.5	84.3	111.3	30.3
All species	3,628.0	434.2	628.2	639.2	591.0	471.6	323.1	219.6	128.3	160.0	32.8

1/ Includes white, swamp white, and swamp chestnut oaks.
2/ Includes cherrybark, northern red, and Shumard oaks.

Table 16.--Volume of sawtimber on commercial forest land, by species and diameter class, 1967

Species	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
	Million board feet								
Softwood:									
Longleaf pine	21.2	6.0	3.5	7.5	2.2	--	--	--	2.0
Shortleaf pine	1,490.2	537.0	453.1	275.3	119.7	68.5	24.5	12.1	--
Loblolly pine	3,426.9	782.4	808.3	730.2	495.2	268.0	163.9	172.7	6.2
Virginia pine	243.9	111.9	75.6	36.6	9.6	2.8	3.6	3.8	--
Pitch pine	12.6	2.6	5.2	2.3	2.5	--	--	--	--
Table-Mountain pine	7.8	---	1.2	--	3.3	1.4	1.9	--	--
Eastern white pine	64.0	0.7	17.1	5.6	1.7	7.0	2.8	26.0	3.1
Eastern hemlock	12.5	--	4.6	--	--	4.5	--	3.4	--
Other eastern softwoods	41.5	21.4	12.8	6.3	1.0	--	--	--	--
Total softwoods	5,320.6	1,462.0	1,381.4	1,063.8	635.2	352.2	196.7	218.0	11.3
Hardwood:									
Select white oaks[1]	476.4	--	115.8	123.0	78.9	61.1	30.6	55.2	11.8
Select red oaks[2]	152.7	--	33.7	32.7	19.6	19.5	20.2	24.7	2.3
Other white oaks	193.4	--	47.3	51.5	42.9	21.4	11.1	19.2	--
Other red oaks	688.0	--	161.8	155.4	146.5	88.8	53.4	56.4	25.7
Hickory	268.6	--	61.5	59.0	40.8	44.2	29.8	28.3	5.0
Hard maple	6.2	--	2.3	1.5	--	0.4	2.0	--	--
Soft maple	101.6	--	23.7	15.7	15.1	17.4	6.9	17.3	5.5
Beech	52.8	--	1.0	5.3	2.1	17.3	6.1	18.3	2.7
Sweetgum	598.1	--	135.9	130.5	137.9	85.0	44.0	62.9	1.9
Tupelo and blackgum	42.8	--	9.6	8.5	10.0	6.6	3.3	4.8	--
Ash	90.4	--	24.4	16.6	23.4	10.4	8.3	7.3	--
Cottonwood	79.2	--	1.4	1.1	11.2	4.9	8.0	18.8	33.8
Basswood	2.7	--	--	--	2.7	--	--	--	--
Yellow-poplar	557.1	--	97.1	138.0	105.6	96.3	54.1	52.1	13.9
Black walnut	8.7	--	--	3.0	--	--	4.5	1.2	--
Black cherry	--	--	--	--	--	--	--	--	--
Elm	64.6	--	22.1	21.1	6.1	9.8	2.5	3.0	--
Sycamore	80.8	--	11.7	9.4	14.9	12.9	10.2	17.1	4.6
Birch (except yellow)	60.5	--	14.5	10.6	4.1	9.2	7.2	14.9	--
Other eastern hardwoods	35.7	--	9.7	5.8	8.6	6.4	5.2	--	--
Total hardwoods	3,560.3	--	773.5	788.7	670.4	511.6	307.4	401.5	107.2
All species	8,880.9	1,462.0	2,154.9	1,852.5	1,305.6	863.8	504.1	619.5	118.5

1/ Includes white, swamp white, and swamp chestnut oaks.
2/ Includes cherrybark and northern red oaks.

Table 17.--Net annual growth and removals of growing stock on commercial forest land, by species, 1966

Species	Net annual growth	Annual timber removals
	Million cubic feet	
Softwood:		
Yellow pines	136.5	100.4
Eastern white pine	1.1	3.2
Other eastern softwoods	3.5	1.9
Total softwoods	141.1	105.5
Hardwood:		
Select white and red oaks	14.8	8.5
Other white and red oaks	22.8	6.2
Hickory	3.8	1.4
Hard maple	0.1	0.2
Sweetgum	11.7	9.1
Ash, walnut, and black cherry	1.8	1.4
Yellow-poplar	11.1	9.1
Other hardwoods	9.3	6.8
Total hardwoods	75.4	42.7
All species	216.5	148.2

Table 18.--Net annual growth and removals of sawtimber on commercial forest land, by species, 1966

Species	Net annual growth	Annual timber removals
	Million board feet	
Softwood:		
Yellow pines	394.5	276.1
Eastern white pine	3.1	15.9
Other eastern softwoods	2.0	2.6
Total softwoods	399.6	294.6
Hardwood:		
Select white and red oaks	36.2	26.6
Other white and red oaks	51.6	16.8
Hickory	6.6	4.3
Hard maple	0.2	--
Sweetgum	25.3	25.8
Ash, walnut, and black cherry	3.7	3.6
Yellow-poplar	32.2	31.6
Other hardwoods	23.6	18.4
Total hardwoods	179.4	127.1
All species	579.0	421.7

Table 19.--Mortality of growing stock and sawtimber on commercial forest land, by species, 1966

Species	Growing stock	Sawtimber
	Million cubic feet	Million board feet
Softwood:		
Yellow pines	9.9	22.7
Eastern white pine	--	--
Other eastern softwoods	0.3	0.9
Total softwoods	10.2	23.6
Hardwood:		
Select white and red oaks	0.1	--
Other white and red oaks	2.4	6.0
Hickory	1.0	3.9
Hard maple	--	--
Sweetgum	0.6	1.8
Ash, walnut, and black cherry	0.5	1.1
Yellow-poplar	--	--
Other hardwoods	1.4	2.6
Total hardwoods	6.0	15.4
All species	16.2	39.0

Table 20.--Volume of all live trees and growing stock on commercial forest land, by ownership class and species group, 1967

Ownership class	All live trees					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million cubic feet									
National Forest	576.3	372.2	10.6	89.1	104.4	524.0	362.3	9.6	73.4	78.7
Other public	142.3	88.4	0.5	14.9	38.5	125.1	85.8	0.5	11.6	27.2
Forestry industry	517.4	295.5	8.3	108.4	105.2	454.5	287.1	6.2	84.8	76.4
Farmer	985.6	368.5	26.2	247.9	343.0	833.9	355.9	23.0	184.5	270.5
Miscellaneous private	1,995.9	872.9	23.5	388.5	711.0	1,690.5	836.0	19.1	295.9	539.5
All ownerships	4,217.5	1,997.5	69.1	848.8	1,302.1	3,628.0	1,927.1	58.4	650.2	992.3

Table 21.--Volume of sawtimber on commercial forest land, by ownership class and species group, 1967

Ownership class	Small sawtimber[1]					Large sawtimber[2]				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet									
National Forest	976.5	824.7	11.2	61.7	78.9	719.3	472.6	13.9	128.9	103.9
Other public	233.1	200.8	1.1	9.0	22.2	125.9	83.9	--	6.9	35.1
Forest industry	762.1	583.2	7.6	92.2	79.1	349.1	154.5	--	118.5	76.1
Farmer	1,124.2	668.7	24.6	192.4	238.5	808.2	199.4	30.0	286.3	292.5
Miscellaneous private	2,373.5	1,561.3	24.0	281.5	506.7	1,409.0	453.5	5.6	378.5	571.4
All ownerships	5,469.4	3,838.7	68.5	636.8	925.4	3,411.5	1,363.9	49.5	919.1	1,079.0

1/ Volume of sawtimber trees less than 15.0 inches at d.b.h.
2/ Volume of sawtimber trees 15.0 inches and larger at d.b.h.

Table 22.--Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group, 1966

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million cubic feet									
National Forest	25.1	18.5	0.7	2.6	3.3	8.7	8.2	--	0.3	0.2
Other public	7.6	5.4	--	1.1	1.1	3.0	2.2	--	0.5	0.3
Forest industry	29.7	21.4	1.4	3.5	3.4	22.1	17.8	0.1	1.9	2.3
Farmer	47.8	25.7	1.0	8.9	12.2	39.0	20.3	3.9	7.7	7.1
Miscellaneous private	106.3	65.5	1.5	13.5	25.8	75.4	51.9	1.1	12.0	10.4
All ownerships	216.5	136.5	4.6	29.6	45.8	148.2	100.4	5.1	22.4	20.3

Table 23.--Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group, 1966

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet									
National Forest	90.7	73.7	1.1	7.7	8.2	33.4	31.8	--	1.0	0.6
Other public	24.2	19.1	0.1	1.8	3.2	6.8	5.0	--	0.8	1.0
Forest industry	89.2	71.9	0.2	10.1	7.0	55.3	44.7	--	4.9	5.7
Farmer	119.9	67.7	2.2	23.4	26.6	116.3	56.7	15.8	23.3	20.5
Miscellaneous private	255.0	162.1	1.5	33.9	57.5	209.9	137.9	2.7	37.6	31.7
All ownerships	579.0	394.5	5.1	76.9	102.5	421.7	276.1	18.5	67.6	59.5

Table 24.--Average net volume per acre of sawtimber, growing stock, and other live timber[1/] on commercial forest land, by ownership class, major forest type, and species group, 1967

Forest type, species group, and class of material	Ownership class											
	All ownerships		National Forest		Other public		Forest industry		Farmer		Misc. private	
	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet
Pine types:												
Growing stock:												
Softwood	1,627	626.8	4,912	1,408.4	4,612	1,360.4	1,462	585.0	1,017	461.7	1,202	534.9
Hardwood	178	105.0	420	206.2	99	158.4	166	89.9	221	116.3	120	83.5
Total	1,805	731.8	5,332	1,614.6	4,711	1,518.8	1,628	674.9	1,238	578.0	1,322	618.4
Other timber:												
Softwood	--	26.8	--	42.5	--	39.1	--	21.5	--	22.2	--	27.3
Hardwood	--	50.1	--	79.0	--	24.1	--	37.7	--	59.2	--	46.2
Total	--	76.9	--	121.5	--	63.2	--	59.2	--	81.4	--	73.5
Oak-pine type:												
Growing stock:												
Softwood	1,157	393.5	3,934	978.9	1,103	397.5	933	333.2	1,076	378.8	915	343.6
Hardwood	835	409.5	1,424	623.2	728	461.5	754	321.1	724	395.7	847	410.1
Total	1,992	803.0	5,358	1,602.1	1,831	859.0	1,687	654.3	1,800	774.5	1,762	753.7
Other timber:												
Softwood	--	13.7	--	19.7	--	--	--	13.0	--	12.8	--	14.0
Hardwood	--	143.0	--	171.8	--	260.0	--	160.7	--	143.4	--	132.8
Total	--	156.7	--	191.5	--	260.0	--	173.7	--	156.2	--	146.8
Upland hardwood types:												
Growing stock:												
Softwood	318	118.4	513	166.4	313	125.6	339	125.0	249	101.3	339	123.2
Hardwood	1,887	823.1	2,955	1,145.7	1,792	753.7	2,254	911.3	1,949	823.3	1,759	798.9
Total	2,205	941.5	3,468	1,312.1	2,105	879.3	2,593	1,036.3	2,198	924.6	2,098	922.1
Other timber:												
Softwood	--	4.0	--	11.0	--	8.6	--	2.2	--	1.9	--	4.7
Hardwood	--	202.9	--	273.1	--	313.6	--	210.7	--	193.5	--	197.6
Total	--	206.9	--	284.1	--	322.2	--	212.9	--	195.4	--	202.3
Bottomland hardwood types:												
Growing stock:												
Softwood	572	141.9	670	190.0	--	--	--	--	756	167.5	520	139.7
Hardwood	2,732	1,072.5	7,220	2,382.5	--	--	316	297.0	2,608	973.6	1,786	880.0
Total	3,304	1,214.4	7,890	2,572.5	--	--	316	297.0	3,364	1,141.1	2,306	1,019.7
Other timber:												
Softwood	--	4.6	--	--	--	--	--	--	--	2.8	--	9.5
Hardwood	--	339.4	--	394.0	--	--	--	64.0	--	205.8	--	533.7
Total	--	344.0	--	394.0	--	--	--	64.0	--	208.6	--	543.2
All types:												
Growing stock:												
Softwood	1,179	441.9	4,119	1,158.8	2,887	868.6	1,178	463.6	802	331.8	886	373.0
Hardwood	800	368.8	1,180	476.7	716	382.1	587	258.3	901	405.5	760	365.8
Total	1,979	810.7	5,299	1,635.5	3,603	1,250.7	1,765	721.9	1,703	737.3	1,646	738.8
Other timber:												
Softwood	--	18.0	--	33.6	--	25.7	--	16.7	--	13.8	--	18.0
Hardwood	--	113.3	--	128.8	--	140.2	--	83.6	--	119.9	--	115.0
Total	--	131.3	--	162.4	--	165.9	--	100.3	--	133.7	--	133.0
All timber	1,979	942.0	5,299	1,797.9	3,603	1,416.6	1,765	822.2	1,703	871.0	1,646	871.8

1/ Rough and rotten trees.

Table 25.--Land area, by class, major forest type, and survey completion date, 1947, 1958, and 1967

Land use class	Survey completion date			Change 1958-1967
	1947	1958	1967	
	Thousand acres			
Forest land:				
Commercial forest land:				
Pine and oak-pine types	2,992.3	2,617.5	3,187.7	+570.2
Hardwood types	1,026.4	1,528.3	1,266.2	-262.1
Total	4,018.7	4,145.8	4,453.9	+308.1
Noncommercial forest land:				
Productive-reserved	16.3	53.9	46.3	- 7.6
Unproductive	0.6	4.3	--	- 4.3
Total	16.9	58.2	46.3	- 11.9
Nonforest land:				
Cropland	2,226.4	1,808.9	1,018.6	-790.3
Pasture and range	305.6	407.3	658.8	+251.5
Other	176.1	274.2	470.5	+196.3
Total	2,708.1	2,490.4	2,147.9	-342.5
All land[1/]	6,743.7	6,694.4	6,648.1	- 46.3

1/ Excludes all water areas.

Table 26.--Volume[1/] of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date

Species group	Year	All classes	Diameter class (inches at breast height)								
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 and larger
			SAWTIMBER (in million board feet)								
Softwood	1947	4,304.9	--	--	1,246.2	1,187.3	761.3	526.1	244.2	130.5	209.3
	1958	4,128.6	--	--	1,236.9	1,060.8	693.0	485.3	256.3	177.9	218.4
	1967	5,320.6	--	--	1,462.0	1,381.4	1,063.8	635.2	352.2	196.7	229.3
Hardwood	1947	2,880.8	--	--	--	532.5	656.5	548.9	418.6	227.9	496.4
	1958	3,052.9	--	--	--	703.1	677.2	554.7	437.4	256.7	423.8
	1967	3,560.3	--	--	--	773.5	788.7	670.4	511.6	307.4	508.7
			GROWING STOCK (in million cubic feet)								
Softwood	1947	1,638.8	264.4	321.6	341.7	288.2	175.3	118.2	53.4	29.2	46.8
	1958	1,615.4	262.6	342.8	339.1	257.5	159.6	109.1	56.1	39.8	48.8
	1967	1,985.5	290.9	398.3	400.9	335.4	245.0	142.7	77.1	44.0	51.2
Hardwood	1947	1,245.9	103.8	147.7	164.8	176.0	188.6	147.7	116.6	62.5	138.2
	1958	1,381.7	119.5	177.8	198.0	232.4	194.5	149.3	121.8	70.4	118.0
	1967	1,642.5	143.3	229.9	238.3	255.6	226.6	180.4	142.5	84.3	141.6
			ALL LIVE TIMBER (in million cubic feet)								
Softwood	1947	1,708.2	290.0	342.6	356.1	293.8	176.1	118.7	53.7	29.7	47.5
	1958	1,685.5	288.0	365.2	353.4	262.5	160.4	109.5	56.4	40.5	49.6
	1967	2,066.6	319.0	424.2	418.1	341.7	246.1	143.3	77.5	44.7	52.0
Hardwood	1947	1,622.9	175.9	207.4	225.4	222.9	226.6	169.0	132.7	74.2	188.8
	1958	1,805.5	202.5	249.8	270.8	294.3	233.8	170.8	138.6	83.6	161.3
	1967	2,150.9	243.6	323.1	325.9	323.7	272.3	206.5	162.1	100.1	193.6

1/ To provide a basis for valid comparisons, adjustments have been made to allow for differences in volume tables and sawtimber specifications used in previous surveys.